

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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In Re Application of:)	
)	Examiner: Brier, Jeffery A
William Finlay McWalter, et.al.)	
)	Art Unit: 2628
Application No: 10/805,091)	Confirmation No.: 7696
)	
Filed: 03/19/2004)	Date: June 11, 2007
)	
For: Draw Manager)	
)	
_____)	

FILED ELECTRONICALLY (PAIR) ON JUNE 11, 2007

MS: Amendment
Commissioner for Patents
P.O. Box 1450,
Alexandria, VA 22313-1450

AMENDMENT

Sir:

In response to the Office Action mailed on March 29, 2007, the date for response extends to June 29, 2007. Please enter this amendment and remarks.

Amendments to the Specification begin on page 2 of this paper.

Amendments to the claims are reflected in the listing of claims which begin on page 6 of this paper.

Remarks/Arguments begin on page 12 of this paper.

Amendments to the Specification:

Please replace paragraphs [0001], [0035], [0036], [0038] and [0047] with the following amended paragraph:

[0001] This application is related to (1) U.S. Patent Application No. 10/104,267 filed March 22, 2002, and entitled “Adaptive Connection Routing Over Multiple Communication Channels,” (2) U.S. Patent Application No. 10/104,245 filed March 22, 2002, and entitled “Abstract User Interface Manager with Prioritization,” and (3) U.S. Patent Application No. 10/805,065 (~~Attorney Docket No. SUNMP177~~) filed on the same day as the instant application, and entitled “Method and Apparatus for User Interface Manager,” each of which are incorporated herein by reference in their entirety for all purposes.

[0035] Still referring to Figure 4, operating system layer 122 sits above hardware layer 120. Java virtual machine (JVM) layer 124 sits on top of operating system (OS) layer 122 and open services gateway initiative (OSGI) layer 126 sits on top of the JVM layer. It should be appreciated that the standard for JVM layer 124 includes Java 2 Platform Micro Edition (J2ME), Connected Device Configuration (CDC), Foundation Profile, Personal Profile or Personal Basis Profile. One skilled in the art will appreciate that J2ME Foundation Profile is a set of APIs meant for applications running on small devices that have some type of network connection, while J2ME CDC Personal Profile or Personal Basis Profile provides the J2ME CDC environment for those devices with a need for a high degree of Internet connectivity and web fidelity. The standards for each of the layers of the stack are provided on the right side of client side implementation 121. In particular, OSGI 126a, J2ME CDC 124a, OS 122a, and embedded board 120a are standards and to the left of the standards are

examples of actual products that implement the standards. For example, OSGI 126a standard is implemented by Sun's Java Embedded Server (JES) 2.1 126b, J2ME 124a standard is implemented by Insignia's Virtual Machine 124b, OS 122a is implemented by Wind River's VxWorks real time operating system 122b, and embedded board 120a is an embedded personal computer based board such as Hitachi's SH4 120b. It should be appreciated that the actual products are exemplary only and not meant to be limiting as any suitable product implementing the standards can be utilized.

[0036] Carlets 132 of Figure 4, have access to each layer above and including OS layer 122. Application program interface (API) layer 130 is the layer that carlets use to communicate with the JPS ~~JTC~~. Service provider interface (SPI) layer 128 is a private interface that managers have among each other. One skilled in the art will appreciate that OSGI layer 126 provides a framework upon which applications can run. Additional functionality over and above the JVM, such as lifecycle management is provided by OSGI layer 126. It should be appreciated that the open services gateway initiative is a cross industry working group defining a set of open APIs for a service gateway for a telematics systems. These APIs consist of a set of core framework APIs. In order to deploy services and their implementations OSGI defines a packaging unit called a service bundle. A service bundle is a Java Archive (JAR) file containing a set of service definitions along with their corresponding implementation. Both infrastructure services and carlets are deployed as service bundles. Some of the functionality for arbitrating, controlling and managing devices and resources, e.g., speakers, cell phones, etc., by OSGI layer 126. However, one skilled in the art will appreciate that a separate arbitration service may also be required. As used

herein, a carlet is a Java application. For each function or task to be processed on the client side or between the client and server sides, a carlet is invoked to manage the operation. In this manner, carlets can be independently written, tested, and launched for use on a telematics system. By way of example, a carlet can be written to control or monitor the activity of automobile components (e.g., tires, engine oil, wiper activity, steering tightness, maintenance recommendations, air bag control, transmission control, etc.), and to control or monitor applications to be processed by the telematics control unit (TCU) and interacted with using the on-board automobile monitor. As such, specialized carlets can be written to control the audio system, entertainment modules (e.g., such as on-line games or movies), voice recognition, telecommunications, email communications (text and voice driven), etc. Accordingly, the type of carlets that can be written is unlimited. Carlets may be pre-installed or downloaded from a sever. A carlet may or may not have an API which may be invoked by other carlets and it may or it may not have running threads of its own.

[0038] Still referring to Figure 5, when a particular carlet application 402 in a plurality of carlet applications 402a-402n is requested, the carlet will communicate with the stream manager 419 and request that a connection be established. In response, the stream manager 419 will request a connection object (Conn. OBJ) 418a from the data multiplexer and flow controller 415. Once a channel satisfying the request is available, the data multiplexer and flow controller 415 will return a connection object (Conn. OBJ) 418b back to the carlet. Thus, a communication link 432 is established between the carlet application 402 via the connection objects 418a and 418b of the data multiplexer and flow controller 418 415. In one embodiment, the connection object 418a of the data multiplexer and flow

controller 418 has the ability to switch between channels 425 that are available to the communications framework 416 of the client side. Here, code contained in the policy manager enables selection of different channels depending upon availability, the type of communication desired, bandwidth requirements for a given data transfer or transfers, payment of a bandwidth fee, subscription level, etc.

[0047] Figure 11 is a simplified schematic diagram of status bar which further exemplifies the advantages of having a draw manager as a middle man in one embodiment of the invention. Here, the status bar is constantly being updated as some process is progressing. For example, the drawer manager is updating a display every 5 millisecond % but an application may be performing an update every 1 millisecond %. Thus, the drawer manager is configured to optimize the display based upon the hardware and operating system for the computing environment in which the draw manager resides.

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (currently amended) A system ~~to display for displaying~~ a user interface for a telematics client incorporated in a vehicle, comprising:

a display panel configured to display image data of the user interface, wherein the user interface is associated with an application executing in a telematics server and the telematics client incorporated in the vehicle is in communication with the application through a wireless network and the display panel displays the image data of the user interface associated with only one application at a time;

a graphics processor in communication with the display panel;

a draw manager in communication with the graphics processor ~~card~~; and

an application buffer, located at the telematics server, in communication with the draw manager, the application buffer configured to receive the image data from an application, the application buffer further configured to transmit the image data to the draw manager at a first rate, wherein the draw manager is configured to determine a rate of updating an object of the display image through an interpolation between values associated with most recent image data received from the application buffer and values associated with previous image data in the draw manager ~~manipulation of the image data received from the application buffer~~.

2. (currently amended) The system of claim 1, wherein the interpolation is performed by the draw manager manipulates the image data received from the application buffer through interpolation of sequential image data.

3. (original) The system of claim 1, wherein the draw manager includes a memory module and draw manager logic.

4. (original) The system of claim 1, wherein the first rate is faster than the rate of updating an object of the display image.

5. (original) The system of claim 1, wherein the draw manager is configured to selectively optimize the rate of updating the object based upon an operating system type and the graphics processor.

6. (original) The system of claim 1, further comprising:

a user interface manager enabling a windowing environment for the application, where the application occupies an entire viewable area of a display screen without alerting other applications whether the other applications have lost or gained focus.

7. (currently amended) The system of claim 6, wherein the user interface manager includes a plurality of logic modules, the plurality of logic modules include,

a logic module to write ~~for writing~~ application data from a plurality of applications to corresponding application buffers;

~~a logic module to enable for enabling~~ a first one of a plurality of application buffers to write data to the draw manger;

~~a logic module to display for displaying~~ user interface data within the entire viewable area of the display panel from the draw manager; and

~~a logic module to switch for switching~~ from a first one of the plurality of application buffers writing data to the draw manager to a second one of the plurality of application buffers while each of the plurality of applications continues to write application data to corresponding application buffers.

8. (currently amended) The user interface manager of claim 7, wherein each of the plurality of logic modules element is one of or a combination of hardware and software.

9. (currently amended) A draw manager configured to optimize updating of a display being presented, comprising:

a memory module ~~to receive for receiving~~ image data from an application buffer;

a plurality of logic modules, including:

~~a logic module to transmit for transmitting~~ the image data ~~for to a~~ display screen;

~~a logic module to determine for determining~~ an update time period for the image data being displayed; and

~~a display module to display logic for transmitting~~ updated image data ~~for on the display screen~~ according to the update time period,

wherein the draw manager is a component of a telematics client incorporated into a vehicle, the telematics client being in communication with a telematics server through a wireless network.

10. (currently amended) The draw manager of claim 9, wherein each of the plurality of logic modules ~~element~~ is one of or a combination of hardware and software.

11. (currently amended) The draw manager of claim 9, wherein the logic module to determine ~~for determining~~ an update time period for the image data being displayed includes, a logic module to capture ~~for capturing~~ the updated image data upon the expiration of successive update time periods.

12. (currently amended) The draw manager of claim 11, further comprising: a logic module to manipulate ~~for manipulating~~ the captured updated image data prior to presentation, the logic module to manipulate ~~for manipulating~~ being configured to perform interpolation between values associated with previous image data and values associated with the captured updated image data.

13. (canceled)

14. (currently amended) A computer implemented method for providing efficient updates for a display screen associated with a telematics system incorporated in a vehicle and in communication with a telematics service through a wireless network, comprising:

writing first image data to an application buffer at a first rate;

writing the first image data from the application buffer to a draw manager;

determining a second rate for updating a display presented on the display screen, the second rate being a less frequent rate than the first rate;

writing second image data to the application buffer at the first rate;

writing the second image data from the application buffer to the draw manager;

determining the second rate for updating the display presented on the display screen,
the second rate being a less frequent rate than the first rate;

defining updated image data, the defining including,

performing an interpolation between values associated with ~~most recent~~ the
second image data of the draw manager and values associated with ~~previous~~ the first image
data of the draw manager; and

updating the display presented on the display screen with the updated image
data.

15. (currently amended) The method of claim 14, wherein the draw manager includes a ~~system~~ display buffer.

16. (currently amended) The method of claim 15, wherein a plurality of application buffers are capable of writing to the ~~system~~ display buffer.

17. (original) The method of claim 14, wherein the method operation of determining a second rate for updating a display presented on the display screen includes,

optimizing the second rate based upon an operating system type and a graphics processor type.

18. (original) The method of claim 14, further comprising:

continually writing data to the application buffer when the data from the application buffer is not being presented on the display screen.

19. (currently amended) The method of claim 14, wherein ~~the~~ method operation of writing the data from the application buffer to a draw manager includes,

selecting the application buffer from a plurality of application buffers, wherein each of the application buffers receiving data from a corresponding application, each corresponding application performing as if data from each corresponding application has focus of the display screen.

20. (original) The method of claim 14, further comprising:

repeating the defining of the updated image data; and

repeating the updating of the display with the updated image data.

REMARKS/COMMENTS

The enclosed is responsive to the Examiner's Office Action mailed on March 29, 2007. At the time the Examiner mailed the Office Action claims 1-20 were pending. By way of the present response the Applicants have: 1) amended the specification without adding any new matter; 2) amended claims 1-2, 7-12, 14-16, and 19; 3) canceled claim 13; 4) added no new claims; and 5) argued the patentability of the Applicants' independent claim 1, 9, and 14. As such, claims 1-12 and 14-20 are now pending. The Applicants respectfully request reconsideration of the claims in view of the following remarks.

Oath/Declaration

In the Office Action mailed on March 29, 2007, The Examiner indicated that the oath or declaration was defective. However, the Examiner, in a teleconversation on May 10, 2007 with the undersigned, submitted that on further examination of the file wrapper no defect was found in the oath or declaration. Hence, the Applicants are not taking any action with regards to the oath or declaration.

Drawings

In the Office Action mailed on March 29, 2007, The Examiner objected to the drawings for having elements numbers not used in the specification. The drawings were also objected because previously submitted formal drawing sheets were not marked "replacement sheet". New formal drawings having captions "replacement sheet" are being sent with this response. Furthermore, the Applicants have made necessary modifications in the

specification with regards to the use of elements numbers to comply with the objection. The Office is requested to withdraw the objection to the drawings.

Specification

In the Office Action mailed on March 29, 2007, the Examiner objected to the specification. The Applicants have made necessary modifications without adding new matter in the specification to comply with the objection. Therefore, the Office is requested to withdraw the objections to the specification.

Claim Rejections – 35 USC 112

In the Office Action mailed on March 29, 2007, the claims 1-20 were rejected under 35 USC 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter.

Claims 1-2, 7-12, 14-16, and 19 have been modified to rectify indefiniteness, as pointed out by the Examiner, in the claims. The Office is requested to withdraw the rejection under 35 USC 112, second paragraph.

Claim Rejections – 35 USC 101

In the Office Action mailed on March 29, 2007, the claims 9-13 were rejected under 35 USC 101 as directed to a non-statutory subject matter because the claims lack a useful,

concrete, and, tangible results. This rejection is respectfully traversed in view of the submitted remarks.

Claim 9 directed to a draw manager configured to receive image data from the applications and display the image on the display screen and modifying the displayed image on the display screen based on the determined update time period. It is further submitted that the draw manager produces a tangible result. As recited in the USPTO's "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility," IV.C.2.b.2.:

"The tangible requirement does not necessarily mean that a claim must either be tied to a particular machine or apparatus or must operate to change articles or materials to a different state or thing. However, the tangible requirement does require that the claim must recite more than a § 101 judicial exception, in that the process claim must set forth a practical application of that § 101 judicial exception to produce a real-world result. Benson, 409 U.S. at 71-72, 175 USPQ at 676-77 (invention ineligible because had "no substantial practical application.")."

Receiving an image data from an application running on a sever, displaying the image on the display screen of a client that is in communication with the server through wireless network, and modifying the displayed image being displayed on the display screen based on the determined update time period is a real-world result.

Still further, the Applicants submit that the processing of the claimed invention defines a concrete result. As further guided by the "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility," IV.C.2.b.3., it is stated that:

"...Another consideration is whether the invention produces a "concrete" result. Usually, this question arises when a result cannot be assured. In other words, the process must have a result that can be substantially repeatable or the process must substantially produce the same result again. In re Swartz, 232 F.3d 862, 864, 56 USPQ2d 1703, 1704 (Fed. Cir. 2000) (where asserted result produced by the claimed invention is "irreproducible" claim should be rejected under section 101)." (emphasis added)

In the claimed invention, the recited operations are repeatable, and thus produce a concrete result, thus rendering the claimed invention patentable under §101. Applicants therefore submit that claim 9 recites a practical application that produces a useful, concrete, and tangible result. Therefore, the Office is requested to withdraw the rejection of claim 9 and its associated dependent claims 8-13 under 35 U.S.C. 101.

Claim Rejections – 35 USC 103

In the Office Action mailed on March 29, 2007, the Applicants' claims 1, 9, and, 14 were rejected under 35 USC 103(a), as being unpatentable over US Patent Application Publication no. 2003/0189597 (hereinafter "ANDERSON"), in view of US Patent no. 4,550,386 (hereinafter "HIROSAWA"). The background of the Applicants' specification was also used to reject the dependent claim 13. This rejection is respectfully traversed in view of the submitted remarks.

Claims 1, 9, and 14 have been amended to further clarify the structure of the methods and systems for displaying user interface in the telematics client. The subject matter of the claim 13 has been incorporated in the amended independent claims.

Claim 1 is directed to a system for displaying a user interface for a telematics client incorporated in a vehicle. The system includes a display panel configured to display image data of the user interface, wherein the user interface is associated with an application executing in a telematics server and the telematics client incorporated in the

vehicle is in communication with the application through a wireless network. The claim 1 is also directed to an application buffer, located at the telematics server, in communication with the draw manager, the application buffer configured to receive the image data from an application, the application buffer further configured to transmit the image data to the draw manager at a first rate, wherein the draw manager is configured to determine a rate of updating an object of the display image through an interpolation between values associated with most recent image data received from the application buffer and values associated with previous image data in the draw manager manipulation of the image data received from the application buffer.

ANDERSON discloses a method for a user to preview multiple virtual desktops in a graphical user interface. The method includes receiving an indication from a user to preview the multiple virtual desktops and displaying multiple panes on the display. ANDERSON does not disclose, teach, or suggest that the display is a part of the telematics client incorporated in a vehicle. Furthermore, ANDERSON teachings are different because ANDERSON discloses displaying multiple desktops simultaneously, i.e., displaying the user interface of several applications simultaneously whereas the display panel in claim 1 displays the image data of the user interface associated with only one application at a time.

ANDERSON also does not disclose, teach, or suggest that the display is in communication with applications that are running on the telematics server and transmitting image data to the display through a wireless network. ANDERSON does not disclose a draw manager, hence, ANDERSON could not disclose that the draw manager is configured to determine a rate of updating an object of the display image through an interpolation between values associated with most recent image data received from the application buffer and values associated with

previous image data in the draw manager manipulation of the image data received from the application buffer.

The Examiner points out that ANDERSON inherently uses “interpolation process” for manipulation of image data. The Applicants respectfully submit that there are various techniques such as image addition, image subtraction, image merging, etc., to manipulate images. Hence, without an explicit disclosure, ANDERSON could not be claimed to be inherently using the technique of image manipulation through interpolation.

HIROSAWA discloses displaying user interfaces of application programs which operate concurrently to be displayed on the split screen of a single terminal linked with the terminal controller. The terminal controller enables simultaneous execution of at least two programs from a terminal without needing any modifications of the existing application programs. HIROSAWA, however, does not disclose, teach, or suggest that the display is a part of the telematics client incorporated in a vehicle. HIROSAWA teachings are different because HIROSAWA is teaching simultaneously displaying the output of at least two application programs whereas the display panel in claim 1 displays the image data of the user interface associated with only one application at a time. HIROSAWA also does not disclose, teach, or suggest that the display is in communication with applications that are running on the telematics server and transmitting image data to the display through a wireless network. HIROSAWA does not disclose a draw manager, hence, HIROSAWA could not disclose that the draw manager is configured to determine a rate of updating an object of the display image through an interpolation between values associated with most recent image data received

from the application buffer and values associated with previous image data in the draw manager manipulation of the image data received from the application buffer.

The Examiner further points out that although ANDERSON and HIROSAWA are silent with regards to placing the computer into a vehicle, Applicants' admission of the prior art discusses placing computers into vehicles for various reasons, and in view of such disclosure, it would have been obvious to one of ordinary skill in the art to place the above combination of ANDERSON and HIROSAWA into a vehicle. The Applicants respectfully submit that Applicants admission of the prior art is different and actually teaches away from combining ANDERSON and HIROSAWA. It is well known in art that simultaneously displaying user interfaces of a plurality of user applications on the display screen is highly resource intensive and require greater data transmission bandwidth compared to displaying the user interface of only one application on the display screen at a time. Both ANDERSON and HIROSAWA disclose handling simultaneous display of more than one application on the desktop. Claim 1 discloses the applications executes on the telematics server, hence, much of the resource burden is transferred to the telematics server from the telematics client. ANDERSON and HIROSAWA, however, do not disclose that the applications run on the telematics server. Therefore, both ANDERSON and HIROSAWA disclose a system that is very resource intensive. The disclosure in the background information of Applicants' specification suggests that a low resource and low bandwidth technique is needed for displaying user interfaces on a mobile device (see paragraph [006] and [007]), i.e., a device installed in a vehicle. Therefore, the teachings in the background of the Applicants' specification would discourage a person skilled in the art from combining ANDERSON and HIROSAWA.

Claim 9 is directed to a draw manager which is a component of a telematics client incorporated into a vehicle, the telematics client being in communication with a telematics server through a wireless network.

Neither ANDERSON nor HIROSAWA teach or disclose a draw manager which is a component of a telematics client incorporated into a vehicle and the telematics client being in communication with a telematics server through a wireless network. For the same reasons discussed in the arguments in support of the patentability of claim 1, neither ANDERSON nor HIROSAWA can be combined with the prior art disclosure of the Applicants' specification.

Claim 14 is directed to a computer implemented method for providing efficient updates for a display screen associated with a telematics system incorporated in a vehicle and in communication with a telematics service through a wireless network. Claim 14 is further directed to performing an interpolation between values associated with most recent the second image data of the draw manager and values associated with previous the first image data of the draw manager. The Applicants respectfully submit for the same reasons as discussed in support of the patentability of claims 1 and 9, neither ANDERSON nor HIROSAWA nor the background of the Applicants specification suggest, disclose, or teach all the limitations of claim 14.

Therefore, ANDERSON, HIROSAWA, and The prior art disclosure in Applicants' specification, either separately or combined, fail to teach, suggest, or disclose, either expressly or inherently, all the elements of the Applicants' claims 1, 9, and, 14.

The Applicants respectfully request reconsideration of the claims and allowance of all claims now presented.

Conclusion

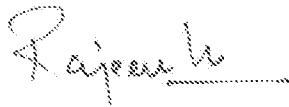
In view of these clarifying claims, the Applicants submit that the cited reference does not suggest the recited elements.

The Applicants respectfully submit that all of the pending claims are in condition for allowance. Accordingly, a notice of allowance is respectfully requested. If the Examiner has any questions concerning the present Amendment, the Examiner is kindly requested to contact the undersigned at (408) 774-6927.

If there are any additional charges, please charge Deposit Account No. 50-0805 (Order No.SUNMP178). A duplicate copy of the transmittal is enclosed for this purpose. If a telephone interview would in any way expedite the prosecution of this application, the Examiner is invited to contact the undersigned at 408-774-6927.

Respectfully submitted,

Martine Penilla & Gencarella, LLP



Dated: June 11, 2007

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